

CLAIMS

What is claimed is:

Sub. a1

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1. A cylinder for an implant system comprising:
a substantially cylindrical body; and
~~one or more shelves~~ disposed on a surface of the substantially cylindrical body.

2. The cylinder of claim 1 wherein the one or more shelves comprise one or more horizontally extending shelves, one or more vertically extending shelves, or a
10 combination thereof.

3. The cylinder of claim 2 wherein the horizontally extending shelves are located on facial and lingual surfaces of the body and the vertically extending shelves are located on proximal surfaces of the body.
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4. The cylinder of claim 1 further comprising an opening extending axially through the body.

5. A framework for an implant system comprising:
20 one or more cylinders, wherein the cylinders each comprise a substantially cylindrical body and one or more shelves disposed on a surface of the substantially cylindrical body; and
fiber reinforced composite material retained on the cylinders.

6. The framework of claim 5 wherein the one or more shelves comprise one or more horizontally extending shelves, one or more vertically extending shelves, or a combination thereof.
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7. The framework of claim 5 wherein the one or more cylinders comprise a
30 series of cylinders aligned in a curved line.

8. The framework of claim 5 wherein the fiber reinforced composite material is disposed in and between the vertically extending shelves.

9. The framework of claim 5 wherein the fiber reinforced composite material
5 is in the shape of bars.

10. The framework of claim 5 wherein the fiber reinforced composite material is wrapped around the one or more cylinders.

10 11. The framework of claim 6 wherein the fiber reinforced composite material is disposed in and between the vertically extending shelves and is wrapped around the one or more cylinders.

Sub. a2 > 12. An implant system comprising:
15 one or more cylinders comprising a substantially cylindrical body and one or more shelves disposed on a surface of the substantially cylindrical body.

13. An implant system comprising:
one or more abutments for connection to implants;
20 one or more cylinders for connection to the one or more abutments wherein each cylinder comprises a substantially cylindrical body, one or more horizontally extending shelves disposed on the surface of the body, and one or more vertically extending shelves disposed on the surface of the body; and
fiber reinforced composite material retained on the cylinders.

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14. The implant system of claim 13 further comprising implants.

15. The implant system of claim 13 wherein the fiber reinforced composite material is disposed in and between the vertically extending shelves and is wrapped
30 around the one or more cylinders.

16. An implant system comprising:
 one or more abutments for connection to implants;
 one or more cylinders for connection to the abutments wherein each cylinder
 comprises a substantially cylindrical body, one or more horizontally extending shelves
 5 disposed on the surface of the body, and one or more vertically extending shelves
 disposed on the surface of the body; and
 a structural material disposed on the cylinders.
17. The implant system of claim 16 further comprising implants.
18. The implant system of claim 16 wherein the structural material comprises
 fiber-reinforced composite material.
19. The cylinder of claim 1 fabricated of a material selected from plastic,
 15 ~~ceramic, polymeric material, and mixtures thereof.~~
20. The framework of claim 5 wherein the fiber reinforced composite
 material comprises a polymeric matrix and fibers dispersed in the polymeric matrix.
21. The framework of claim 20 wherein the fiber-reinforced composite
 20 material further comprises a filler material.
22. The framework of claim 20 wherein the polymeric matrix is selected from
 the group of polyamides, polyesters, polyolefins, polyimides, polyacrylates,
 25 polyurethanes, vinyl esters, nylon, epoxy-based materials, styrene, styrene acrylonitrile,
 ABS polymers, polysulfones, polyacetals, polycarbonates, polyphenylene sulfides and
 mixtures thereof.
23. The framework of claim 20 wherein the fibers are fabricated from
 30 materials selected from glass, carbon, graphite, polyaramid, polyethylene and mixtures
 thereof.

24. The framework of claim 21 wherein the filler material is selected from silica, silicate glass, quartz, barium silicate, strontium silicate, barium borosilicate, strontium borosilicate, borosilicate, lithium silicate, amorphous silica, ammoniated or
5 deammoniated calcium phosphate, alumina, zirconia, tin oxide, titania poly(methacrylate) and mixtures thereof.

25. A prosthesis comprising the implant system of claim 13.

10 26. A prosthesis comprising the implant system of claim 16.

~~27.~~ A method of making an implant system comprising:
placing a series of cylinders onto a cast wherein each cylinder comprises a
substantially cylindrical body, one or more horizontally extending shelves disposed on
15 the surface of the body, and one or more vertically extending shelves disposed on the
surface of the body; and
building a structural framework on the series of cylinders.

28. The method of claim 27 wherein the structural framework comprises fiber
20 reinforced composite material.

29. The method of claim 27 further comprising building a prosthesis on the
framework.

25 30. The method of claim 29 further comprising inserting the implant system
into a patient's mouth.

~~31.~~ An implant system comprising:
one or more abutments for connection to implants;

one or more cylinders for connection to the one or more abutments wherein each cylinder comprises a substantially cylindrical body and one or more shelves disposed on a surface of the substantially cylindrical body; and

fiber reinforced composite material retained on the cylinders.

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~~32.~~ An implant system comprising:

one or more abutments for connection to implants;

one or more cylinders for connection to the abutments wherein each cylinder comprises a substantially cylindrical body and one or more shelves disposed on a surface of the substantially cylindrical body; and

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a structural material disposed on the cylinders.

~~33.~~ An abutment for an implant system comprising:

a longitudinally extending upper end;

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a collar connected to the upper end; and

a longitudinally extending lower end connected to the collar, wherein the upper end comprises one or more retaining holes.

34. The abutment of claim 33 wherein the lower end comprises threading.

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35. An implant system comprising one or more abutments of claim 33.

36. The implant system of claim 35 wherein polymeric material is disposed on the upper end of the abutment.

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37. The implant system of claim 36 wherein a crown is disposed on the polymeric material.

~~38.~~ An abutment for an implant system comprising:

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a substantially cylindrical lower end; and

a substantially cylindrical upper end having a plurality of beads thereon.

39. The abutment of claim 38 comprising a bore therethrough.

40. An implant system comprising one or more abutments of claim 38.

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41. The implant system of claim 40 wherein polymeric material is disposed on the upper end of the abutment.

42. The implant system of claim 36 wherein a crown is disposed on the
10 polymeric material.

Sub. a4 > ~~43. A cylinder for an implant system comprising:
a substantially cylindrical body;
one or more shelves disposed on a surface of the substantially cylindrical body;
15 and
a cantilever extending from the cylindrical body.~~

~~44. A cylinder for an implant system comprising:
a substantially cylindrical body;
20 one or more shelves disposed on a surface of the substantially cylindrical body;
and
a series of nodules, holes or beads disposed on a surface of the cylindrical body.~~

~~45. A kit for an implant system comprising:
25 one or more cylinders, wherein the cylinders comprise a substantially cylindrical
body; and one or more shelves disposed on a surface of the substantially cylindrical body.~~

~~46. A kit for an implant system comprising:
composite material; and
30 one or more cylinders, wherein the cylinders comprise a substantially cylindrical
body; and one or more shelves disposed on a surface of the substantially cylindrical body.~~

47. The kit of claim 45 further including abutments, implants, and composite material.

5 48. The kit of claim 47 further including bonding resin and screws.

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